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LAW, ENDOWMENTS, AND FINANCE

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ABSTRACT

This paper assesses two theories regarding the historical determinants of international differences in financial development. The law and finance theory holds that legal traditions differ in terms of the priority they attach to protecting the rights of private investors vis-a-vis the State and this has important implications for financial development. The endowment theory argues that the disease and geographical environment influence the formation of long-lasting institutions that influence financial development. Using a sample of former colonies, we explore whether the legal system brought by colonizers and/or the initial disease/geographical endowments encountered by colonizers explain financial development today. The empirical results indicate that both the legal systems brought by colonizers and the initial endowments in the colonies are important determinants of stock market development and private property rights protection. However, initial endowments are more robustly associated with financial intermediary development than legal origin and initial endowments explain more of the cross-country variation in financial intermediary and stock market development than legal origin.

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1. Introduction

A substantial body of work suggests that well-functioning financial intermediaries and markets promote economic growth (Levine, 1997). The view that financial systems exert a first-order impact on economic growth raises critical questions: How did some countries develop well-functioning financial systems, while others did not? Why do some countries have strong laws and property rights protection that support private contracting and financial development, while others do not? While considerable research examines the finance-growth relationship, much less work examines the fundamental sources of international differences in financial development.

This paper empirically evaluates two theories concerning the historical determinants of financial development. First, the ***law and finance*** theory holds that (a) legal traditions differ in terms of the priority they attach to protecting the rights of private investors vis-à-vis the State, (b) private property rights protection forms the basis of financial contracting and overall financial development, and (c) the major legal traditions were formed in Europe centuries ago and were then spread through conquest, colonization, and imitation [LaPorta, Lopez-de-Silanes, Shleifer, and Vishny, 1998, henceforth LLSV]. Thus, the law and finance theory predicts that historically determined differences in legal tradition help explain international differences in financial development today.

The law and finance theory focuses on the differences between the two most influential legal traditions: the British Common law and the French Civil law [Hayek, 1960; LLSV, 1998]. According to this theory, the British Common law evolved to protect private property owners against the crown [Merryman, 1985].[1] This facilitated the ability of private property owners to transact confidently, with positive repercussions on financial development [North and Weingast, 1989]. In contrast, the French Civil law was constructed to eliminate the role of a corrupt judiciary,

solidify State power, and restrain the courts from interfering with State policy.[2] Over time, State dominance produced a legal tradition that focuses more on the rights of the State and less on the rights of individual investors than the British Common law [Hayek, 1960; Mahoney, 2001]. According to the law and finance theory, a powerful State with a responsive legal system will have the incentives and capabilities to divert the flow of society's resources toward favored ends and this power will hinder the development of free, competitive financial systems. Thus, the law and finance theory predicts that countries that have adopted a French Civil law tradition will tend to place less of an emphasis on private property rights protection and will enjoy correspondingly lower levels of financial development than countries with a British Common law tradition.

The law and finance theory focuses on the origin of a country's legal tradition. The French secured the Napoleonic Code in all conquered lands and colonies. Furthermore, the Code shaped the Spanish and Portuguese legal systems, which further spread the French Civil law to Spanish and Portuguese colonies. The British also instituted the Common law in its colonies. According to the law and finance theory, the spread of legal traditions had enduring influences on national approaches to private property rights and financial development: British colonizers brought a legal tradition that stresses private property rights and fosters financial development; in contrast, colonizers that brought the French Civil law implanted a legal tradition that is less conducive to financial development.

The ***endowment theory*** emphasizes the roles of geography and the disease environment in shaping institutional development and we apply this theory to the development of private property rights and financial institutions. Acemoglu, Johnson, and Robinson (2001, henceforth AJR) base their theory on three premises. First, AJR note that Europeans adopted different types of colonization strategies. At one end of the spectrum, the Europeans settled and created institutions to support private property and check the power of the State. These "settler colonies" include the

United States, Australia, and New Zealand. At the other end of the spectrum, Europeans did not aim to settle and instead sought to extract as much from the colony as possible. In these "extractive states," Europeans did not create institutions to support private property rights; rather, they established institutions that empowered the elite to extract gold, silver, etc. (e.g., Congo, Ivory Coast, and much of Latin America).

The second component of AJR's theory holds that the type of colonization strategy was heavily influenced by the feasibility of settlement. In inhospitable environments, Europeans tended to create extractive states (AJR, 2001)[3]. In areas where endowments favored settlement, Europeans tended to form settler colonies. For instance, AJR note that the Pilgrims decided to settle in the American colonies instead of Guyana partially because of the high mortality rates in Guyana. Moreover, Curtin (1964, 1998) documents that European newspapers published colonial mortality rates widely, so that potential settlers had information about colonial "endowments." Thus, according to the endowment theory, the disease environment shaped colonization strategy and the types of institutions established by Europeans colonizers.

The final piece of the AJR theory of institutional development stresses that the institutions created by European colonizers endured after independence. Settler colonies tended to produce post-colonial governments that were more democratic and more devoted to defending private property rights than extractive colonies. In contrast, since extractive colonies had already constructed institutions for effectively extracting resources, the post-colonial elite frequently assumed power and readily exploited the pre-existing extractive institutions.[4]

While AJR (2001) focus on institutional development in general, their theory is applicable to the financial sector. In an "extractive" environment, colonizers will not construct institutions that favor the development of free, competitive financial markets because competitive markets may threaten the position of the "extractors." In "settler" colonies, however, colonizers will be much

more likely to construct institutions that protect private property rights and hence foster financial development. Thus, according to the endowment theory, differences in endowments shaped initial institutions and these initial institutions have had long-lasting repercussions on private property rights protection and financial development.[5]

Although the law and endowment theories both stress the importance of initial institutions in shaping financial development today, they highlight very different mechanisms. The law and finance theory focuses on the legal tradition implanted by the colonizer. The endowment theory focuses on the disease/geography endowments of the colony and how these endowments shaped colonization strategy and the construction of long-lasting institutions. In the law and finance theory, the identity of the colonizer is crucial, but the identity of the colonizer is irrelevant according to the endowment theory. Similarly, in the endowment theory, the endowments of the lands where Europeans arrived are crucial, but the law and finance theory gives no weight to the mortality rates of European colonizers in explaining private property rights and financial development today.[6] These two explanations of financial development are not necessarily mutually exclusive, though they highlight very different causal mechanisms.

To evaluate empirically the law and endowment theories of financial development, we use cross-country regressions. We examine whether cross-country differences in financial institutions are accounted for by cross-country differences in legal tradition and/or initial endowments while controlling for other possible determinants. To measure financial development, we use measures of (i) financial intermediary development, (ii) equity market development, and (iii) private property rights protection. For simplicity, we use the term "financial development" to refer both to particular measures of financial intermediary and stock market development and to the protection of property rights. We measure financial development over the period 1990-95. To measure legal tradition, we use the LLSV (1999) indicators of whether the country has a British or French legal tradition, which

is based on the origin of each country's Company/Commercial law. For reasons described below, we examine a sample of 70 former colonies with either British or French legal origins. To measure initial endowments, we primarily use the AJR measure of settler mortality as European settlers arrived in various parts of the globe. For robustness, we also use the absolute value of the latitude of each country as an alternative – albeit less precise -- indicator of initial endowments since many authors argue that tropical climates are not conducive to institutional and economic development. In conducting the cross-country comparisons, we control for other potential determinants of financial development. Specifically, we include measures of ethnic diversity, religious composition, years of independence since 1776, and continent dummy variables. Further, we also assess whether the political structure of a country is the only mechanism through which the legal tradition and initial endowments influence current financial development.

We focus on a sample of 70 former colonies for two reasons. First, we have AJR's (2001) data on settler mortality, which is a key building block of AJR's (2001) empirical assessment of the endowment theory. Second, there are good reasons for believing that legal and financial systems evolved simultaneously in Europe centuries ago (Berman, 1997). Thus, it may be inappropriate to treat legal origin as exogenous in England and France, as well as in Germany, the Scandinavian countries, and other non-colonies. European colonization offers a unique break, a natural identifying condition (AJR, 2001, 2002; Engerman and Sokoloff, 1997). As European conquerors and colonizers landed, they brought different legal traditions. Colonization represents a period during which legal traditions were exogenously established around the globe. For these reasons, we use a sample of 70 former colonies with data on settler mortality. This sample only includes countries with British and French legal origins.

This paper makes four contributions.[7] First, this paper applies AJR's (2001) endowment theory of institutions directly to the study of financial development. Although AJR (2001) carefully

document the connections running from endowments to institutions to the level of economic development today, we examine whether initial colonial endowments explain a wide array of current measures of financial development. Since financial development helps explain technological innovation, the efficiency of capital allocation across industries and firms, output volatility, the likelihood of suffering a systemic banking crisis, and economic growth even when controlling for the level of economic development and the level of institutional development, it is important to assess whether endowments influence financial development.[8] Second, this is the first paper to consider simultaneously the legal and endowment views of financial development. This is crucial to assessing two very different visions of how the institutions founded by Europeans continue to shape national approaches to private property and financial development. Third, although others have shown that legal tradition shapes financial development [LLSV, 1997; 1998; 2000], this paper goes much farther in evaluating the robustness of the law and finance view by controlling for endowments, religion, ethnic diversity, the length of independence, etc. This assessment is critical if we are to have much confidence in legal theories of financial development. Fourth, while some argue that political factors drive private property rights protection and financial development (Rajan and Zingales, 2002), this is the first paper to examine whether legal origin and disease/geographical endowments explain cross-country differences in financial development beyond their ability to account for differences in national political systems.

The paper is organized as follows. Section 2 describes the data and presents figures that motivate the analysis. Section 3 discusses the regression results and a series of robustness tests are presented in Section 4. Section 5 concludes.

2. Data and Initial Assessments

This section describes the data and presents figures documenting that (1) Common law countries tend to have higher levels of financial development than French civil law countries and (2) countries with high levels of European mortality during the initial stages of colonization tend to have lower levels of financial development than countries with initially low settler mortality rates.

2.1. Financial Development

To measure financial development, we use indicators of financial intermediary development, stock market development, and the protection of property rights. The goal is to proxy for the degree to which national financial systems facilitate the acquisition of information about firms, ease corporate governance, and help agents manage risk, and mobilize savings effectively. Unfortunately, we do not have direct and comparable measures of the ability of national financial systems to provide these services for a broad cross-section of countries. Thus, we use a variety of indicators of financial development to assess the connections between law, endowments, and finance.

PRIVATE CREDIT equals financial intermediary credits to the private sector divided by gross domestic product (GDP) and is measured over the 1990-95 period. PRIVATE CREDIT excludes credit to the public sector and cross claims of one intermediary on another, i.e., credits by one financial intermediary to another financial intermediary are not included in PRIVATE CREDIT. It thus measures the amount of savings that is channeled through debt-issuing financial intermediaries to private borrowers. For most countries, PRIVATE CREDIT is obtained from data available from the International Monetary Fund (IMF). To maximize the size of the sample, however, we also used World Bank data sources for a few countries missing IMF data; the countries

and sources are specified in the data appendix. Past work shows a strong connection between PRIVATE CREDIT and economic growth [Levine, Loayza, and Beck, 2000]. PRIVATE CREDIT ranges from values above 0.9 in the United States, Hong Kong, Singapore, South Africa, and Malaysia, to values less than 0.03 in Sierra Leone, Uganda, Angola, and Zaire.

STOCK MARKET DEVELOPMENT equals the total value of outstanding equity shares as a fraction of GDP and is averaged over the 1990-95 period.[9] This measures the overall size of the equity market relative to the size of the economy.[10] The data are primarily collected from the World Bank's International Finance Corporation. However, we use additional data sources to complete the dataset and these data sources are specified in the data appendix. There are large cross-country differences as shown in Table 1, Panel A. STOCK MARKET DEVELOPMENT is greater than 0.65 in the United States, Chile, Singapore, South Africa, Hong Kong, and Malaysia and indistinguishable from zero in 29 countries.

PROPERTY RIGHTS is an index of the degree to which the government protects private property and enforces laws that protect private property. The data are for 1997 and were obtained from LLSV (1999) and the Index of Economic Freedom. While PRIVATE CREDIT and STOCK MARKET DEVELOPMENT are direct measures of the size of financial intermediaries and equity markets, PROPERTY RIGHTS does not directly measure the size of a component of the financial sector. Rather, PROPERTY RIGHTS measures a key input into the efficient operation of financial contracts and the development of formal financial institutions: the degree of protection of private property rights. The law and endowment theories stress the degree to which national institutions emphasize private property rights versus the rights of the State. This difference in emphasis may influence a variety of indicators of financial development. While PROPERTY RIGHTS is one indicator, there may be measurement problems and differences in emphasis on State versus private rights that affect financial contracting beyond narrow indicators of property rights protection.

Hence, we examine a variety of financial development indicators. The maximum value of PROPERTY RIGHTS is five, while one indicates the weakest property rights protection. Nine former colonies have the maximum value of five. Only Haiti and Rwanda have the minimum value of 1, while 15 countries have a value of 2 for PROPERTY RIGHTS.[11]

2.2. Legal Origin

LLSV (1998, 1999) identify the legal origin of each country's Company/Commercial Law as French, British, German, Scandinavian, or Socialist.[12] Given that we are examining former colonies with data on settler mortality from AJR (2001), we have data for only French and British legal origin countries.[13] The FRENCH LEGAL ORIGIN dummy variable equals one if the country adopted its Company/Commercial law from the French Civil Law and zero otherwise. In the regressions, the British legal origin is captured in the constant.

Figure 1 clearly shows that financial development is substantially higher in countries with a British Common law tradition than in countries with a French Civil Law tradition. French Civil law countries have, on average, lower levels of PRIVATE CREDIT, STOCK MARKET DEVELOPMENT, and PROPERTY RIGHTS than British Common Law countries. There are 45 French civil law countries and 25 Common law countries. The Table 1 Panel B correlations confirm Figure 1: the FRENCH LEGAL ORIGIN dummy variable is significantly, negatively correlated with each of the three financial development indicators. Furthermore, Figure 2 illustrates that in Common law countries, eight countries have PRIVATE CREDIT greater than 0.6 (Australia, Canada, New Zealand, Malaysia, Singapore, South Africa, Hong Kong, and the United States), while among French civil law countries, only Malta has PRIVATE CREDIT greater than 0.6.

Figure 2 just as clearly shows that legal origin does not completely explain cross-country variation in financial development today. For instance, many Common law countries have PRIVATE CREDIT less than 0.3 and Common law countries such as Uganda, Sierra Leone, Ghana,

Sudan, and Tanzania have extremely low PRIVATE CREDIT levels. We need to know more than legal origin to account for cross-country differences in financial development.

2.3. Endowments

As Europeans arrived around the world, they encountered very different environments. In some lands, Europeans found hospitable environments. In others, conditions were less inhospitable and European died in large numbers. According to AJR (2001), these "endowments" fundamentally influenced the types of long-lasting institutions created by European colonists.

To measure endowments, we use the AJR (2001) measure of SETTLER MORTALITY. AJR (2001) compile data on the death rates faced by settlers. Curtin (1989) constructs data on the mortality and disease rates of European soldiers in colonies during the early nineteenth century. The raw data come from British, French, and United States governments during the period 1817-1848. The standard measure was annualized deaths per thousand soldiers with each death replaced with a new soldier. Curtin (1998) adds similar data on soldier mortality during the second half of the nineteenth century. Finally, Gutierrez (1986) uses Vatican records to construct estimates of the mortality rates of bishops in Latin America from 1604 to 1876. Since some of these data overlap with Curtin's separate estimates, AJR confirm the compatibility of the two data series before constructing an overall measure of the logarithm of annualized deaths per thousand Europeans, SETTLER MORTALITY, for a large group of former colonies. As in AJR (2001), we use the logarithm to diminish the impact of outliers. The AJR (2001) measure forms the core of our analysis of endowments and finance. This measure ranges from to 2.15 (Australia and New Zealand) to 7.99 (Mali).

Figure 3 shows a generally negative, though certainly not a simple linear, relation between SETTLER MORTALITY and financial development.[14] This is especially pronounced for

PRIVATE CREDIT and STOCK MARKET DEVELOPMENT. In particular, there are no countries with PRIVATE CREDIT greater than 0.6 and with SETTLER MORTALITY greater than 3. Table 1, Panel B shows that there is a significant, negative correlation between SETTLER MORTALITY and each of the three financial development indicators at the one-percent significance level. The data indicate that in colonies where early settlers found very inhospitable environments, we do not observe well-developed financial systems today.

2.4. Other Possible Determinants of Financial Development

To assess the robustness of our results, we include several other potential determinants of financial development in our empirical analysis. ETHNIC FRACTIONALIZATION measures the probability that two randomly selected individuals from a country are from different ethnolinguistic groups. LSSV (1999, p. 231) argue, "…political theories predict that, as ethnic heterogeneity increases, governments become more interventionist." Recent studies show that in highly ethnically diverse economies, the group that comes to power tends to implement policies that: (a) expropriate as many resources as possible from the ethnic losers, (b) restrict the rights of other groups, and (c) prohibit the growth of industries or sectors that threaten the ruling group [Alesina, Easterly, and Baqir (1999) and Easterly and Levine (1997)]. When this view is applied to the financial sector, the implications are clear: greater ethnic diversity implies the adoption of policies and institutions that are focused on maintaining power and control and not toward creating an open and competitive financial system. Table 1 Panel B indicates that there is a significant, negative correlation between ETHNIC FRACTIONALIZATION and PRIVATE CREDIT. We include ETHNIC FRACTIONALIZATION in examining the independent impact of law and endowments on financial development.

INDEPENDENCE equals the fraction of years since 1776 that the country has been independent. We include this since a longer period of independence may provide greater

opportunities for countries to develop institutions, policies, and regulations independently of their colonial heritage. In the simple correlations, however, we do not find a significant link between INDEPENDENCE and financial development.

We also examine religious composition. Many scholars argue that religion shapes national views regarding property rights, competition, and the role of the State (LLSV 1999; Stulz and Williamson, 2002). Putnam (1993, p. 107), for instance, contends that the Catholic Church fosters "vertical bonds of authority" rather than "horizontal bonds of fellowship". Similarly, Landes (1998) argues that Catholic and Muslim countries tend to develop xenophobic cultures and powerful church/state bonds to maintain control, which limits competition and private property rights.

CATHOLIC, MUSLIM, and OTHER RELIGION equal the fraction of the population that is Catholic, Muslim, or of another (non-Protestant) religion. The Protestant share of the population is omitted (and therefore captured in the regression constant). The data are from LLSV (1999).

Table 1 Panel B shows that countries with a higher proportion of population that are neither Catholic, nor Muslim, nor Protestant, have higher levels of financial development than countries where a higher fraction of the country is either Catholic or Muslim. Thus, we control for religious composition in examining the independent relation between financial development and both legal origin and endowments.

Note there is a very large, positive, and significant correlation between CATHOLIC and FRENCH LEGAL ORIGIN (0.48). Thus, it may be particularly difficult to distinguish fully between CATHOLIC and the Civil law tradition.

Finally, we include one dummy variable for countries in LATIN AMERICA and another for countries in Sub-Saharan AFRICA. A large number of studies find that countries in Sub-Saharan Africa and Latin America perform more poorly than countries in other regions of the world even

after controlling for economic policies, institutional development, and other factors. (For analyses and citations, see Easterly and Levine, 1997.)

There are important problems with including continent dummies. First, continent dummies do not proxy for a clear explanation of why countries in these regions have worse institutions or perform poorly. Second, Latin America is primarily a French legal origin continent. The correlation between Catholic and Latin America is 0.71 and is significant at the one-percent level. Thus, including continent dummies may weaken our ability to identify linkages between financial development and legal origin without offering a clear, alternative explanation. Third, many Sub-Saharan African countries have high settler mortality rates. The correlation between AFRICA and SETTLER MORTALITY is 0.65 and is significant at the one-percent level. Thus, including the AFRICA dummy may decrease the ability to find a link between financial development and endowments without offering an alternative theory. Including these continent dummies, however, may control for region-specific characteristics that are not captured by any of the other explanatory variables. Therefore, while recognizing the problems associated with interpreting continent dummies, we include them in assessing the relation between law, endowments, and finance.[15]

3. Regression Results

This section presents regressions on the relationship between financial development and both law and endowments while controlling for other possible determinants of financial development. The dependent variable is one of the three measures of financial development: PRIVATE CREDIT, STOCK MARKET DEVELOPMENT, or PROPERTY RIGHTS. We use a dummy variable for French legal origin to assess the links between law and finance. We use SETTLER MORTALITY to assess the relationship between endowments and finance. As control variables, we use continent dummy variables (for Latin American and Africa), measures of religious

composition, the percentage of years the country has been independent since 1776, and ethnic diversity.[16] The reasons for including these controls were discussed above.

3.1. Law and Finance

Table 2 presents regressions of financial development on French legal origin and various combinations of the control variables. Table 2 does not include measures of endowments.

The results indicate a strong, negative relation between French legal origin and financial development. When controlling for continent dummies, religious composition, ethnic diversity, and independence, French legal origin enters negatively and significantly at the five-percent level in all of the financial development regressions. The results suggest an economically large impact. For instance the smallest coefficient on FRENCH LEGAL ORIGIN in the STOCK MARKET DEVELOPMENT regressions is -0.27, where the mean value of STOCK MARKET DEVELOPMENT is 0.19 and the standard deviation is 0.40. For illustrative purposes, the coefficient suggests that if Argentina had a British Common law tradition, its low level of stock market capitalization (0.10) would be substantially larger and closer to that in New Zealand (0.37).

In sum, French Civil Law countries tend to have lower levels of financial development than British Common Law countries after controlling for many other national characteristics. This result is consistent with the LLSV (1998) view that the identity of the colonizer matters because of the legal traditions they brought.

3.2. Endowments and Finance

Table 3 indicates a robust, negative association between SETTLER MORTALITY and financial development. SETTLER MORTALITY enters with a negative coefficient and is significant at the five-percent level in all of the PRIVATE CREDIT and STOCK MARKET DEVELOPMENT regressions. The coefficient sizes are economically large. According to the

smallest coefficient in the PRIVATE CREDIT regression in Table 3 (-0.14), a one-standard deviation reduction in the logarithm of mortality rates (1.24) would increase PRIVATE CREDIT by 0.17 (where the mean and standard deviation of PRIVATE CREDIT are 0.32 and 0.30 respectively). More concretely, the estimates can account for why countries such as Nicaragua and Jamaica with bad endowments (log settler mortality rates of 5.1 and 4.9 respectively) have lower levels of financial intermediary development (0.25 and 0.27 respectively) than Chile (0.54), which had a log settler mortality rate of 4.2. Furthermore, SETTLER MORTALITY enters all of the PROPERTY RIGHTS regressions negatively and significantly, except those including continent dummies. As noted, there is an extremely high correlation between AFRICA and SETTLER MORTALITY. Also, as we report below, when we use an alternative measure of property rights protection, settler mortality enters significantly even when controlling for AFRICA.

These results support the view that high settler mortality rates are negatively associated with financial development today and are robust to an assortment of control variables. These findings are fully consistent with the AJR (2001, 2002) view that a colony's environmental endowments influenced how it was colonized –whether it was an extractive colony or a settler colony -- with long-lasting implications for institutional development.

3.3. Law, Endowments, and Finance

Table 4 presents regression results on the relation between financial development and both law and endowments while controlling for other exogenous determinants of financial development.

The Table 4 regressions provide strong support for the endowment view of financial development. SETTLER MORTALITY enters all of the PRIVATE CREDIT and STOCK MARKET DEVELOPMENT regressions significantly at the five-percent level even when controlling for legal origin, continent dummies, religious composition, the length of time the

country has been independent, and ethnic diversity. The sizes of the coefficients on SETTLER MORTALITY in the PRIVATE CREDIT and STOCK MARKET DEVELOPMENT regressions are very similar to those in Table 3, which do not also control for legal origin. Also, similar to Table 3, the Table 4 regressions indicate that SETTLER MORTALITY exerts a statistically significant impact on PROPERTY RIGHTS except when controlling for the AFRICA dummy variable (because of the very high correlation between the rate of settler mortality and countries in Sub-Saharan Africa). As discussed below, however, when we use an alternative measure of property rights protection, settler mortality enters significantly even when controlling for the AFRICA dummy variable.

In sum, poor endowments – as measured by settler mortality – are negatively associated with financial development today. Even when controlling for the legal tradition of the colonizers and other possible determinants of financial development, initial endowments of the colonies help explain cross-country variation in financial development today, which is strongly supportive of the AJR (2001, 2002) endowment view.

The Table 4 regressions also provide support for the law and finance view, though some qualifications are necessary. When controlling for SETTLER MORTALITY, the relationship between financial intermediary development (PRIVATE CREDIT) and legal origin is not robust to the inclusion of various control variables. However, FRENCH LEGAL ORIGIN is negatively and significantly associated with PROPERTY RIGHTS in all of the regressions when controlling for SETTLER MORTALITY. Putting aside regressions that include CATHOLIC (which is extremely highly correlated with French Civil law), FRENCH LEGAL ORIGIN is also negatively and significantly linked with STOCK MARKET DEVELOPMENT. To the extent that equity markets rely more than banking institutions on well-functioning legal systems to defend the rights of individual investors, these findings are consistent with the thrust of the law and finance view.

Subject to the qualifications discussed above, we interpret the results as generally consistent with the LLSV (1998) theory that the French Civil law tends to place greater emphasis on the rights of the State versus the rights of individuals, with negative repercussions on financial contracting. In contrast, the British Common law tends to place greater emphasis on the contractual rights of individual investors, with positive implications for financial development. While LLSV (1998) document the link between financial development and legal origin, this paper goes much further in controlling for alternative explanations. Our results demonstrate a strong connection between legal origin and stock market development and the protection of private property rights, but we also show that the link between legal origin and financial intermediary development is not robust to the inclusion of numerous control variables.

In comparing the explanatory power of law and endowments, Tables 2-4 indicate that endowments explain a greater amount of the cross-country variation in financial intermediary and stock market development than legal origin. Consider the regressions in Tables 2-4 that do not include any regressors beyond FRENCH LEGAL ORIGIN and SETTLER MORTALITY. The adjusted R-square in the PRIVATE CREDIT-FRENCH LEGAL ORIGIN regression is 0.12 (Table 2), while it is 0.44 in the PRIVATE CREDIT-SETTLER MORTALITY regression (Table 3). Furthermore, when adding FRENCH LEGAL ORIGIN to the SETTLER MORTALITY regression, the adjusted R-square only rises from 0.44 to 0.48 (Table 4). Moreover, as indicated above, legal origin does not enter the PRIVATE CREDIT robustly when including various control variables, but endowments remain negatively and significantly linked with financial intermediary development across various control variables. Turning to private property rights protection, the explanatory power of law and endowments in the PROPERTY RIGHTS regressions is very similar. However, the STOCK MARKET DEVELOPMENT regressions again illustrate the greater explanatory power of endowments. The adjusted R-square in the STOCK MARKET DEVELOPMENT-FRENCH

LEGAL ORIGIN regression is 0.17 (Table 2), and it is 0.27 in the SETTLER MORTALITY regression (Table 3). Furthermore, when adding FRENCH LEGAL ORIGIN to the SETTLER MORTALITY regression, the adjusted R-square only rises from 0.27 to 0.36 (Table 4). Thus, while legal origin enters all of the stock market development regressions that do not control for religious composition significantly (Table 4), endowments explain a greater proportion of the cross-country variation in stock market development than legal origin.[17]

Turning to the control variables, the regression analyses do not indicate a robust, consistent relationship between the continent dummy variables, religious composition measures, the length of national independence, nor the level of ethnic diversity and financial development when controlling for legal origin and national endowments. The Table 4 regressions – as well those in Tables 2 and 3 – do not demonstrate a significant, robust relation between any of these control variables and any of the measures of financial development when controlling for the law and endowments. As emphasized above, (1) French Civil law countries also tend to be predominantly Catholic, (2) much of Latin America adopted the French Civil law tradition, and (3) Sub-Saharan Africa had very high rates of settler mortality. Nevertheless, while a consistent pattern of results emerges for law and endowments, we do not observe a robust set of results on the continent dummies, religious composition variables, independence indicator, or ethnic diversity measure.

4. Robustness Tests

4.1. Political Structure

As a robustness check, we control for political structure. North (1990) argues that once groups gain power, they will shape policies and institutions to their own advantages. The work of Finer (1997) and Damaska (1986) further suggests that centralized/powerful states will be more

responsive to and efficient at implementing the interests of the elite than a decentralized/competitive political system with an assortment of checks and balances. Thus, while the law and endowments may play a role, this politics and finance view stresses that closed political systems are more likely to impede the development of financial systems that promote competition and threaten entrenched powers than open political systems (Rajan and Zingales, 2002). LLSV (1998) do not control for political structure in their examination of the law and finance view.

To assess whether law and endowments continue to explain cross-country differences in financial development after controlling for the structure of the political environment, we use two measures of political openness. LEGISLATIVE COMPETITION is an index of the degree of competitiveness of the last legislative election, ranging from 1 (non-competitive) to 7 (most competitive). CHECKS measures the number of influential veto players in legislative and executive initiatives. These data are from Beck, Clarke, Groff, Keefer, and Walsh, (2001). The politics and finance view predicts that greater competition and more checks and balances will limit the ability of the elite to dictate policy and institutional development.

To control for endogenous determination of political structures, we use instrumental variables.[18] As instruments, we include the religious composition variables, independence, and ethnic diversity. We include the religious variables since Landes (1998) and others argue that the Catholic and Muslim religions tend to produce hierarchical political systems. We include independence since more years of independence may permit greater latitude to shape domestic political institutions. We include ethnic diversity since some theories suggest that ethnic diversity will tend to create political systems that stymie competition and permit greater discretion on the part of the controlling party (Alesina, Easterly, and Baqir, 1999). The instrumental variables significantly explain cross-country variation in the political structure indexes at the one- percent significance level. Nevertheless, given the valid skepticism associated with obtaining fully

acceptable instrumental variables for political structure, we (i) present these exploratory results as a robustness check on the endowment and law theories and not as a strong test of the political channel and (ii) we are particularly circumspect in interpreting these instrumental variable regressions.

The Table 5 instrumental variable results (a) are consistent with the law and endowment theories while controlling for the structure of the political system and (b) suggest that the politics mechanisms is not the only channel via which law and endowments influence financial development. As shown, legal origin and endowments continue to enter the financial development regressions significantly even when controlling for the exogenous component of political structure except for SETTLER MORTALITY in the PROPERTY RIGHTS regressions. The political structure variables do not enter any of the financial development regressions significantly. Thus, there is no evidence in Table 5 that political structure explains cross-country variation in financial development beyond the explanatory power of legal origin and environmental endowments. Furthermore, the results do not suggest that political structure is the only channel via which legal origin and initial endowments influence financial development. If political structure were the only channel through which law and initial endowments influence financial development, we would have found a significant coefficient on the political structure indicators and insignificant coefficients on the legal origin and endowment indicators. We found the opposite. Moreover, we ran two-stage least regressions with financial development as the dependent variable and with political structure as the only explanatory variable in the second stage. The instruments were legal origin and settler mortality. While political structure enters the financial development regression significantly and with the predicted sign, the instruments do not pass the test of over-identifying restrictions. These results do not reject the compelling arguments and evidence presented in Rajan and Zingales (2002). Rather the evidence in this paper suggests that legal origin and endowments influence financial development beyond the political channel.[19]

4.2. Alternative Samples

To assess the robustness of the results, we examine different sub-samples of countries. In these robustness checks, we only include two regressions to keep the table to a manageable length. We include one regression with only the law/endowment variables as regressors and a second regression that includes continent dummy variables, the years of independence, and ethnic diversity. We do not include the religious indicators because they do not enter any of Table 2-4 regressions significantly at the five-percent level.

Table 6 presents regression results on five different sub-samples of countries. Panel A excludes Australia, Canada, New Zealand, and the United States from the regression. After omitting these countries, the data continue to support both the law and endowment views of financial development. The results are fully consistent with the full sample results in Table 4. FRENCH LEGAL ORIGIN enters all of the STOCK MARKET DEVELOPMENT and PROPERTY RIGHTS regressions significantly, but does not enter the PRIVATE CREDIT regression significantly when controlling for other determinants. SETTLER MORTALILITY enters all of the PRIVATE CREDIT and STOCK MARKET DEVELOPMENT regressions significantly, but does not enter significantly in the PROPERTY RIGHTS regression when controlling for AFRICA. In Panels B and C, we examine French legal origin and British legal origin countries separately to test whether settler mortality accounts for cross-country variation in financial development within each group. Again, the results support the view that the disease environment encountered by European settlers shaped the formation of long-lasting financial institutions. The results do, however, suggest that the SETTLER MORTALITY-finance relationship is stronger for the British legal origin sample of countries than for the French legal origin sample. SETTLER MORTALITY enters negatively and significantly in all the regressions in Panel C (only British legal origin countries) except for the PROPERTY RIGHTS regression when we include the African

dummy variable (which we discussed above). It is not as robustly related to equity market development and property rights in the French legal origin sub-sample – it does not enter significantly once we control for AFRICA. Further, settler mortality explains less than half of the cross-country variation in financial development among French Civil law countries than among British Common law countries, as can be seen from comparing the adjusted R-square statistics in Panels B and C. Finally, we also examine high and low settler mortality countries. Here, we assess whether legal origin explains financial development within the high (above the median) settler mortality countries and within the low (below the median) settler mortality countries.[20] The results are broadly consistent with the earlier findings. FRENCH LEGAL ORIGIN is not strongly associated with financial intermediary development (PRIVATE CREDIT) in the high-mortality countries. Nevertheless, legal origin is strongly, negatively associated with STOCK MARKET DEVELOPMENT and PROPERTY RIGHTS in both sub-samples and PRIVATE CREDIT in the low-mortality sample. While there are some differences when looking across different sub-samples, the same basic pattern emerges as in the full sample: law and endowments explain financial development, though the endowment-intermediary (PRIVATE CREDIT) relationship is more robust than the law-intermediary (PRIVATE CREDIT) relationship.

4.3. Alternative Indicators of Financial Development

Next, we examine alternative measures of financial development. Specifically, instead of examining financial intermediary credit to the private sector (PRIVATE CREDIT), we use the demand and interest-bearing liabilities of financial intermediaries (LIQUID LIABILITIES). Instead of market capitalization to measure stock market development, we examine the total value of stock transactions in the economy as a share of GDP (TOTAL VALUE TRADED). Finally, instead of the private property rights protection index used by LLSV (1999), we examine (a) the ICRG

measure of the degree to which the country adheres to the rule of law (RULE OF LAW) and (b) the Kaufmann, Kraay, Zoido-Lobaton (1999) AGGREATE RULE OF LAW index. The RULE OF LAW and AGGREATE RULE OF LAW indicators, however, are available for fewer countries, 63 and 68 respectively, than the PROPERTY RIGHTS measure used throughout the paper.

Table 7 indicates that these alternative indicators produce results that are consistent with those discussed above. Settler mortality is significantly, negatively associated with the new measures of financial intermediary development, stock market development, and property rights protection. Although the RULE OF LAW-SETTLER MORTALITY relationship weakens when including continent dummy variables, years of independence, and ethnic diversity the AGGREGATE RULE OF LAW-SETTLER MORTALITY relationship remains significant when controlling for these country traits. Since it is only when including a dummy variable for AFRICA (where settler mortality rates were very high) that SETTLER MORTALLITY loses its significant relationship with two of our three measures of private property rights protection, we interpret these findings as broadly consistent with the view that the initial endowments in the colonies helped shape institutional approaches to the protection of private property rights.

FRENCH LEGAL ORIGIN is negatively associated with all the alternative financial development indicators except financial intermediary development. As noted above, the relationship between law and financial intermediary development is more fragile than the endowment-intermediary relationship.[21]

4.4. Alternative Endowment Indicator

Next, we use an alternative measure of endowments, LATITUDE, which equals the absolute value of the latitude of each country normalized to lie between zero and one. We take the data from LLSV (1999). Countries that are closer to the equator will tend to have a more tropical climate that

is inhospitable to European settlers and therefore more likely to foster "extractive" institutions.[22] However, LATITUDE is not as precise an indicator of the conditions facing European settlers as SETTLER MORTALITY and therefore LATITUDE is not as precise an empirical proxy for the AJR (2001) endowment theory as SETTLER MORTALITY. LATITUDE directly measures geographic location, not climactic conditions. Thus, we have focused our analyses on SETTLER MORTALITY and include LATITUDE in our robustness checks.

The Table 8 regressions with LATITUDE indicate, albeit less robustly than the SETTLER MORTALITY regressions, that countries closer to the equator have lower levels of financial development than countries in more temperate climates. LATITUDE is positively associated with PROPERTY RIGHTS after using the array of control variables discussed above. LATITUDE is also significantly and positively linked with PRIVATE CREDIT in all of the regressions that do not include AFRICA, which is very highly correlated with LATITUDE. There is not a strong link between LATITUDE and stock market development. Using LATITUDE, we find a strong link between legal origin and financial development. FRENCH LEGAL ORIGIN enters significantly in all regressions and its inclusion substantially increases the adjusted R-square over those regressions that only include LATITUDE. Given the imprecise nature of LATITUDE as proxy for the AJR (2001) endowment theory, we attach greater weight to the results with SETTLER MORTALITY.

4.5. Tobit Estimation

Finally, we estimate the stock market development equations using a Tobit estimator. Both STOCK MARKET DEVELOPMENT (market capitalization divided by GDP) and TOTAL VALUE TRADED (trading divided by GDP) have many countries with zero values. Thus, we re-estimate the equation using a Tobit estimator. As shown in Table 9, we find that both law and

endowments enter significantly in all of the regressions when using the Tobit estimator, confirming the earlier results.

5. Conclusions

This paper assessed two theories regarding the historical determinants of financial development. The ***law and finance theory*** predicts that historically determined differences in legal origin can explain cross-country differences in financial development today. Specifically, the law and finance theory predicts that countries that inherited the British Common law tradition obtained a legal tradition that tends to emphasize private property rights and support financial development to a much greater degree than countries that obtained the French Civil law tradition. The ***endowment theory*** predicts that the initial environmental endowments encountered by European colonizers shaped the types of long-lasting institutions created by these colonizers. Specifically, hospitable endowments favored the construction of "settler colonies," where Europeans established secure property rights. In contrast, colonies with high settler mortality rates fostered the construction of "extractive colonies," where Europeans established institutions that facilitated State control and resource extraction. According to the endowment theory, the long-lasting institutions created by colonizers continue to influence financial development today.

Although both the law and endowment theories stress the importance of how initial conditions influence institutions today, there are crucial differences. The law and finance theory focuses on the legal tradition brought by the colonizer. Thus, the identity of the colonizer is key. The endowment theory focuses on how the colony's endowments shaped the construction of long-lasting institutions. Thus, the endowment theory focuses on the conditions of the colony, not the identity of the colonizer.

The paper provides qualified support for the law and finance theory (Hayek, 1960; LLSV, 1998). One important qualification is that the connection between legal origin and financial intermediary development is not robust to controlling for endowments and other country

characteristics. Legal origin, however, explains cross-country differences in private property rights protection even after controlling for initial endowment indicators, religious composition, ethnic diversity, and the fraction of years the country has been independent since 1776. Furthermore, except when controlling for religious composition (there is a strong correlation between French legal heritage and the Catholic religion), there is a robust link between legal origin and stock market development: French Civil law countries have significantly lower levels of stock market development than British Common law countries after controlling for other country characteristics.

The data provide strong support for the endowment view. Countries with poor geographical endowments, as measured by the log of settler mortality, tend to have less developed financial intermediaries, less well-developed stock markets, and weaker property rights protection. These results hold after controlling for legal origin, the percentage of years since 1776 the country has been independent, the religious composition of the country and the degree of ethnic diversity. In terms of comparing the law and endowment theories, the empirical results indicate that both the legal systems brought by colonizers and the initial endowments in the colonies are important determinants of stock market development and private property rights protection. However, initial endowments are more robustly associated with financial intermediary development than legal origin. Moreover, initial endowments explain more of the cross-country variation in financial intermediary and stock market development than legal origin. In sum and consistent with AJR's (2001) endowment theory, we find a robust link between initial endowments and current levels of financial development.

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ENDNOTES

[1] While landholding rights in England were originally based on William I´s feudal system, the courts developed legal rules that treated large estate holders as private property owners and not as tenants of the king. Indeed, the common law at the dawn of the 17th century was principally a law of private property [e.g., Littleton, 1481, and Coke, 1628]. During the great conflict between Parliament and the English kings in the 16th and 17th centuries, the Crown attempted to reassert feudal prerogatives and sell monopoly rights to cope with budgetary shortfalls. Parliament (composed mostly of landowners and wealthy merchants) along with the courts took the side of the property owners against the Crown. While King James I argued that royal prerogative superseded the common law, the courts asserted that the law is king, *Lex, Rex*. The Stuarts were thrown out in 1688.

[2] By the 18th century, there was a notable deterioration in the integrity and prestige of the judiciary. The Crown sold judgeships to rich families and the judges unabashedly promoted the interests of the elite. [Dawson, 1968, p. 373]. Unsurprisingly then, the French Revolution strove to eliminate the role of the judiciary in making and interpreting the law. Robespierre even argued that, "the word jurisprudence ... must be effaced from our language." (Quoted from Dawson, 1968, p. 426) Antagonism toward jurisprudence and the exaltation of the role of the state encouraged the development of easily verifiable "bright-line-rules" that do not rely on the discretion of judges (Glaeser and Shleifer, 2002). Thus, codification supported the strengthening of the government and relegated judges to a relatively minor, bureaucratic role.

[3] Mortality rates were startlingly high in some places. In the first year of the Sierra Leone Company, 72 percent of the Europeans died. In the 1805 Mungo park expedition in Gambia and Niger, all of the Europeans died before completing the trip.

[4] Young (1994) presents historical evidence that once authoritarian institutions are efficiently extracting resources from the bulk of society, the post-independent rulers tend to use these institutions to their own advantage and profit. This was the case in Sierra Leone, Senegal, and Congo. Latin America is similar. While Mexicans gained independence from European colonialists, the elite that assumed power took advantage of the existing institutions to extract resources, rather than creating institutions to protect private property, contracts, and foster broad-based economic development. Furthermore, Engerman, Mariscal, and Sokoloff (1998) demonstrate the long-lasting impact of initial institutions on voting rights: once regimes restrict voting rights to protect the elite from the masses, the government tends to resist changes in suffrage policies for long periods.

[5] Engerman and Sokoloff (1997) note another channel through which geographical endowments shape initial institutions with enduring effects on economic development. They show that agriculture in southern North America and much of South America is conducive to large plantations. Thus, colonialists developed long-lasting institutions to protect the few landowners against the many peasants. In contrast, northern North America's agriculture is conducive to small farms, so that more egalitarian institutions emerged. Thus, endowments influence the formation of institutions associated with openness and competition. Our primary reason for focusing on the AJR (2001) measure of settler mortality and not also examining agricultural endowments is that AJR (2001) have assembled data for a broad cross-section of countries.

[6] This is admittedly overstated. Proponents of the law and finance theory do not argue that endowments are irrelevant. Similarly, proponents of the endowment theory do not contend that the law is irrelevant. Rather, each theory articulates very distinct mechanisms about how the colonization period shaped national views toward private property rights and financial development. We stress – and empirically evaluate -- the distinct predictions.

[7] Alexander Pivovarsky (2001) also examines the relationship between institutions and financial development. He analyzes the impact of current institutions, instrumented by settler mortality and legal origin, on financial development and finds a stronger effect of the exogenous component of institutions on financial development. We, however, compare endowments and legal origin directly in their effect on financial development. We only became aware of his insightful Ph.D. dissertation after we completed this paper.

[8] In particular, see Beck, Levine, and Loayza (2000) on the finance and productivity growth relationship, Wurgler (2000) on the finance and industry allocation of capital relationship, Demirguc-Kunt and Maksimovic (1998) on the finance and firm growth link, Demirguc-Kunt and Detragiache (2002) on the finance and crisis relationship, Easterly, Islam, and Stiglitz (2000) on the finance and output volatility links, and Levine and Zervos (1998) and Rajan and Zingales (1998) on the finance-growth relationship.

[9] For both STOCK MARKET DEVELOPMENT and PRIVATE CREDIT, we have conducted the analyses using data averaged over the 1975-95 period instead of the 1990-95 period. We get the same results. Since there are fewer countries with data over the 1975-95 period, we present the results with the 1990-95 averages.

[10] Since there are differences in ownership concentration across countries, LLSV (1998) suggest using an adjustment whereby STOCK MARKET DEVELOPMENT is multiplied by one minus the median ownership share of the three

largest shareholder in the ten largest non-financial, privately-owned domestic firms in the country. This paper obtains the same conclusions using this adjusted measure. Since we only have these ownership share figures for a sub-sample of countries, however, making this adjustment substantially reduces our dataset. Thus, we report the results using the standard STOCK MARKET DEVELOPMENT indicator for market size.

[11] We do not have data on PROPERTY RIGHTS for the Central African Republic, so there are only 69 countries in the PROPERTY RIGHTS regressions.

[12] One may further refine the categorization of legal traditions, as described by the following examples. First, Franks and Sussman (1999) and Coffee (2000) describe differences in the adaptability of two Common law countries: the United Kingdom and the United States. While in the U.K there is freedom of contracting and the judiciary is therefore not very powerful, in the U.S. the judiciary has a more important role to play in developing law. In both systems, however, the legislature does not have a monopoly on creating law, as in the original French legal system, as designed by Napoleon. In both the U.K and the U.S., case law is a source of law, while not in France. Second, different colonization strategies may have intensified differences across legal traditions. England did not try to replace Islamic, Hindu, or African law. English courts in the colonies, therefore, used local laws and customs in deciding cases. This quickly produced an Indian Common law distinct from English Common law. While perhaps chaotic, this allowed for the integration of common law with local circumstances. In contrast, the French imposed the Code although serious conflicts frequently existed with local customs. Also, legal scholars study differences across the French civil law countries of Latin America. While recognizing that each country's legal system is special, the comparative law literature clearly emphasizes that there are key differences across the major legal families.

[13] Although we have data on settler mortality for Vietnam and Myanmar (which are classified as socialist legal origin countries by LLSV (1999), we do not include these two countries because we do not have comparable information on financial development for these economies. Also, there are 70 countries in our sample of former colonies with settler mortality data. We also constructed a larger sample of 95 non-European countries. This 95-country sample, however, does not have settler mortality data. For the 95-country sample, we conducted the analyses using latitude instead of settler mortality and obtained the same results reported below

[14] AJR (2001) document a negative linear relation between the logarithm of settler mortality and the absence of expropriation risk. We are instead examining financial development indicators. When we experimented with a non-linear transformation (e.g., the inverse of the log settler mortality rate), we obtain the same conclusions discussed below.

[15] In a previous version, we also included GDP per capita as control variable. Institutional development, however, also influences economic development (as shown by AJR 2001); so that including GDP per capita together with initial endowments would bias the coefficient on legal origin and settler mortality/latitude toward zero. Further, unlike the other regressors, GDP per capita is endogenous, which causes estimation problems as shown by AJR (2001).

[16] We also include regression where we control for continent dummies, time since independence and ethnic fractionalization at the same time. We do not include religious composition in these regressions since they never enter significantly at the five-percent significance level.

[17] It is difficult to compare the sizes of the coefficients on SETTLER MORTALITY and FRENCH LEGAL ORIGIN because a change in legal origin is obviously large and discrete. Nevertheless, we compare a change in legal origin with a change in SETTLER MORTALITY from the second quintile to the fourth quintile (i.e., a change of 2.1), which is less than a two standard deviation change in SETTLER MORTALITY (2.5). Using, for instance, the coefficients in the last row of the stock market development indicators in Table 4, this implies a change in stock market development of 0.23 from a legal origin change and 0.34 from the endowment change. The change from the endowment change is more than 50 percent larger.

[18] We find the same results when using ordinary least squares and therefore not instrumenting for political structure.

[19] Beck, Demirguc-Kunt and Levine (2002) examine the different channels through which legal origin affects financial development.

[20] Note there are more countries in Panel E than Panel D because Algeria and Morocco have exactly the median level of Settler Mortality and are allocated to the below median group. When we allocate them to the above median group, or split them between the two groups, we obtain the same results.

[21] Unlike in the PROPERTY RIGHTS regressions of Tables 2-4, SETTLER MORTALITY explains a larger share of the variation in the RULE OF LAW and AGGERGATE RULE OF LAW regressions than FRENCH LEGAL ORIGIN. As discussed in Section 3.3, we draw this conclusion by comparing adjusted R-square statistics across regressions with only legal origin, with only SETTLER MORTALITY, and then with SETTLER MORTAILITY and legal origin included simultaneously. The regressions with only SETTLER MORTALITY and only the legal origin dummy variable for this sample of countries are not reported.

[22] While some authors stress the direct impact of tropical environments on production (Kamarck, 1976; Crosby, 1989; and Gallup, Sachs, and Millinger, 1998), AJR (2002) show that the environment tends to influence economic development primarily through its impact on institutions. See Easterly and Levine (2002) for evidence consistent with AJR (2002).

Table 1
Summary Statistics and Correlations

Summary statistics are presented in Panel A and correlations are presented in Panel B, respectively. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property Rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Saharan Africa, respectively. Catholic, Muslim, and Other indicate the percentage of the population that follows a particular religion (Catholic, Muslim, or religions other than Catholic, Muslim or Protestant, respectively). Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Legislative Competition is an indicator of competition in the last legislative election. Checks measures the number of veto-players in the political decision process. These two measures are averaged over 1990-95. Detailed variable definitions and sources are given in the data appendix.

Panel A: Summary Statistics:

	N	Mean	Std. Dev.	Min	Max
Private Credit	70	0.32	0.30	0.01	1.48
Stock Market Development	70	0.19	0.40	0	1.89
Property Rights	69	3.12	0.99	1	5
French Legal Origin	70	0.64	0.48	0	1
Settler Mortality	70	4.67	1.24	2.15	7.99
Africa	70	0.40	0.49	0	1
Latin America	70	0.36	0.48	0	1
Catholic	70	39.44	36.89	0.10	97.3
Muslim	70	23.90	33.87	0.00	99.4
Other religion	70	25.79	23.58	0.30	86.0
Independence	70	0.32	0.32	0	1
Ethnic Fractionalization	70	0.42	0.31	0	0.89
Legislative Competition	68	5.81	1.62	1	7
Checks	68	2.68	1.40	1	6

Panel B:
Correlation Matrix of Variables

	Private Credit	Stock Market Development	Property Rights	French Legal Origin	Settler Mortality	Africa	Latin America	Catholic	Muslim	Other Religion	Independence	Ethnic Fractionalization	Legislative Competition
Stock Market Development	0.763***												
Property Rights	0.618***	0.487***											
French Legal Origin	-0.370***	-0.430***	-0.461***										
Settler Mortality	-0.669***	-0.528***	-0.438***	0.238**									
Africa	-0.408***	-0.228*	-0.426***	0.061	0.651***								
Latin America.	-0.105	-0.140	0.064	0.244**	-0.178	-0.609***							
Catholic	-0.133	-0.194	-0.114	0.479***	-0.118	-0.356***	0.706***						
Muslim	-0.157	-0.141	-0.103	0.006	0.271**	0.240**	-0.500***	-0.652***					
Other Religion	0.283**	0.421***	0.187	-0.552***	-0.137	0.166	-0.379***	-0.548***	-0.175				
Independence	0.057	-0.016	0.041	0.330***	-0.323***	-0.475***	0.630***	0.700***	-0.421***	-0.384***			
Ethnic Fractionalization	-0.269**	-0.062	-0.213*	-0.076	0.433***	0.718***	-0.551***	-0.370***	0.229*	0.229*	-0.437***		
Legislative competition	0.408***	0.271**	0.401***	-0.032	-0.601***	-0.699***	0.513***	0.425***	-0.387***	-0.143	0.392***	-0.506***	
Checks	0.378***	0.323**	0.373***	-0.202*	-0.497***	-0.543***	0.383***	0.248**	-0.285**	-0.010	0.317***	-0.306**	0.664***

*, **, *** indicate significance levels of 10, 5, and 1 percent respectively.

Table 2
Law and Finance

The regression estimated is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + $\beta_2 X$, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Catholic, Muslim, and Other indicate the percentage of the population that follows a particular religion (Catholic, Muslim, or religions other than Catholic, Muslim or Protestant, respectively). Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. The sample is restricted to the countries for which data on Settler Mortality are available. Detailed variable definitions and sources are given in the data appendix.

	French legal origin	Latin America	Africa	Catholic	Muslim	Other	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	-0.233***								0.124	70
	(0.088)									
	-0.136**	-0.292***	-0.417***						0.378	70
	(0.067)	(0.092)	(0.100)							
	-0.181**			-0.002	-0.003	-0.001			0.121	70
	(0.086)			(0.003)	(0.003)	(0.005)				
	-0.275***						0.191		0.148	70
	(0.097)						(0.136)			
	-0.247***							-0.289***	0.203	70
	(0.084)							(0.095)		
	-0.168**	-0.352***	-0.348***				0170	-0.109	0.384	70
	(0.080)	(0.112)	(0.107)				(0.179)	(0.133)		
Stock Market Development	-0.356***								0.173	70
	(0.118)									
	-.0.278***	-0.242*	-0.312**						0.240	70
	(0.101)	(0.128)	(0.143)							
	-0.265**			0.002	0.002	0.006			0.199	70
	(0.107)			(0.004)	(0.004)	(0.005)				
	-0.395***						0.176**		0.179	70
	(0.111)						(0.082)			
	-0.362***							-0.121	0.170	70
	(0.117)							(0.122)		
	-0.308***	-0.299***	-0.315*				0.224	0.087	0.237	70
	(0.102)	(0.104)	(0.177)				(0.150)	(0.176)		
Property Rights	-0.947***								0.198	69
	(0.241)									
	-0.836***	-0.250	-0.969***						0.351	69
	(0.206)	(0.265)	(0.243)							
	-1.065***			-0.002	-0.005	-0.007			0.182	69
	(0.291)			(0.009)	(0.009)	(0.011)				
	-1.103***						0.692**		0.232	69
	(0.235)						(0.346)			
	-0.995***							-0.813**	0.253	69
	(0.232)							(0.339)		
	-0.856***	-0.286	-1.014***				0.182	0.178	0.334	69
	(0.203)	(0.297)	(0.293)				(0.393)	(0.477)		

Table 3
Endowments and Finance

The regression estimated is: Financial Sector Development = $\alpha + \beta_1$ Settler Mortality + $\beta_2 X$, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Catholic, Muslim, and Other indicate the percentage of the population that follows a particular religion (Catholic, Muslim, or religions other than Catholic, Muslim or Protestant, respectively). Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

	Settler mortality	Latin America	Africa	Catholic	Muslim	Other	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	-0.164***								0.440	70
	(0.030)									
	-0.137***	-0.230***	-0.163						0.500	70
	(0.038)	(0.086)	(0.113)							
	-0.161***			-0.004	-0.003	-0.002			0.490	70
	(0.028)			(0.003)	(0.210)	(0.004)				
	-0.178***						-0.168		0.460	70
	(0.031)						(0.138)			
	-0.166***							0.025	0.432	70
	(0.033)							(0.076)		
	-0.140***	-0.224*	-0.131				-0.038	-0.080	0.489	70
	(0.038)	(0.128)	(0.121)				(0.176)	(0.103)		
Stock Market Development	-0.170***								0.267	70
	(0.047)									
	-.0.182**	-0.204	-0.008						0.305	70
	(0.071)	(0.132)	(0.199)							
	-0.159***			-0.001	-0.001	0.004			0.372	70
	(0.042)			(0.003)	(0.003)	(0.005)				
	-0.191***						-0.260		0.297	70
	(0.056)						(0.158)			
	-0.198***							0.261	0.292	70
	(0.059)							(0.167)		
	-0.189**	-0.145	-0.057				-0.099	0.141	0.294	70
	(0.073)	(0.127)	(0.198)				(0.180)	(0.183)		
Property Rights	-0.349***								0.177	69
	(0.099)									
	-0.151	-0.489*	-0.903**						0.220	69
	(0.117)	(0.290)	(0.352)							
	-0.339***			-0.015*	-0.012	-0.010			0.194	69
	(0.092)			(0.009)	(0.008)	(0.011)				
	-0.377***						-0.336		0.175	69
	(0.104)						(0.387)			
	-0.338***							-0.102	0.166	69
	(0.113)							(0.415)		
	-0.180	-0.271	-1.010**				-0.418	0.345	0.214	69
	(0.125)	(0.407)	(0.392)				(0.550)	(0.514)		

Table 4
Law, Endowments, and Finance

The regression estimated is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Settler Mortality + $\beta_3 X$, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Catholic, Muslim, and Other indicate the percentage of the population that follows a particular religion (Catholic, Muslim, or religions other than Catholic, Muslim or Protestant, respectively). Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

	Settler mortality	French legal origin	Latin America	Africa	Catholic	Muslim	Other	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private	-0.151***	-0.141**								0.480	70
Credit	(0.026)	(0.059)									
	-0.130***	-0.097*	-0.194*	-0.148						0.514	70
	(0.034)	(0.055)	(0.082)	(0.108)							
	-0.157***	-0.054			-0.004	-0.003	-0.002			0.486	70
	(0.028)	(0.074)			(0.003)	(0.002)	(0.003)				
	-0.160***	-0.115						-0.090		0.478	70
	(0.028)	(0.077)						(0.134)			
	-0.148***	-0.144**							-0.024	0.472	70
	(0.028)	(0.059)							(0.073)		
	-0.127***	-0.108	-0.214*	-0.110				0.029	-0.100	0.505	70
	(0.035)	(0.069)	(0.117)	(0.121)				(0.185)	(0.110)		
Stock	-0.145***	-0.268***								0.358	70
Market	(0.038)	(0.085)									
Development	-0.164***	-0.229***	-0.118	0.028						0.363	70
	(0.061)	(0.079)	(0.123)	(0.181)							
	-0.147***	-0.146			0.000	0.001	0.005			0.380	70
	(0.040)	(0.090)			(0.003)	(0.003)	(0.005)				
	-0.156***	-0.240***						-0.095		0.353	70
	(0.049)	(0.072)						(0.135)			
	-0.167***	-0.246***							0.178	0.364	70
	(0.049)	(0.080)							(0.150)		
	-0.161**	-0.232***	-0.123	-0.012				0.044	0.098	0.346	70
	(0.063)	(0.071)	(0.115)	(0.190)				(0.163)	(0.171)		
Property	-0.279***	-0.781***								0.304	69
Rights	(0.080)	(0.223)									
	-0.088	-0.810***	-0.183	-0.786**						0.348	69
	(0.101)	(0.216)	(0.274)	(0.334)							
	-0.277***	-0.853***			-0.004	-0.003	-0.008			0.281	69
	(0.082)	(0.310)			(0.008)	(0.008)	(0.010)				
	-0.251***	-0.856***						0.256		0.299	69
	(0.087)	(0.227)						(0.371)			
	-0.232**	-0.833***							-0.398	0.307	69
	(0.095)	(0.231)							(0.401)		
	-0.082	-0.816***	-0.197	-0.860**				0.091	0.184	0.328	69
	(0.110)	(0.216)	(0.328)	(0.371)				(0.434)	(0.480)		

Table 5
Law, Endowments, Politics, and Finance

The regression estimated in is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Settler Mortality + β_3 Political structure, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights and Political Structure is either Legislative Competition or Checks. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. Legislative competition is an indicator of competition in the last legislative election. Checks measures the number of veto-players in the political decision process. These two measures are averaged over 1990-95. . Detailed variable definitions and sources are given in the data appendix. All regressions are estimated using Instrumental Variables – two stage least squares. In the first-stage regressions the political structure indicators are regressed on legal origin, settler mortality, Catholic, Muslim, Other Religion, Independence and Ethnic Fractionalization. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. P-values are given in parentheses for the over-identifying restrictions.

	OIR test	Settler mortality	French legal origin	Legislative competition	Checks	Adjusted-R^2	Obs
Private	3.693	-0.169***	-0.123**	-0.037		0.429	68
Credit	(0.449)	(0.051)	(0.059)	(0.048)			
	2.405	-0.184***	-0.160**		-0.083	0.317	68
	(0.662)	(0.044)	(0.064)		(0.060)		
Stock	1.232	-0.199**	-0.215**	-0.090		0.224	68
Market	(0.873)	(0.090)	(0.083)	(0.079)			
Development	2.445	-0.177**	-0.274**		-0.095	0.192	68
	(0.655)	(0.074)	(0.105)		(0.086)		
Property	3.214	-0.186	-0.858***	0.093		0.348	67
Rights	(0.523)	(0.154)	(0.223)	(0.154)			
	3.055	-0.177	-0.780***		0.160	0.323	67
	(0.549)	(0.159)	(0.225)		(0.243)		

Table 6
Law, Endowments, and Finance: Alternative Samples

The regressions estimated in Panel A is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Settler Mortality + $\beta_3 X$, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. The regressions in Panel A exclude Australia, Canada, New Zealand and the U.S., the regressions in Panels B-C are: Financial Sector Development = $\alpha + \beta_1$ Settler Mortality + $\beta_2 X$. The regressions in Panel B include only French legal origin and in Panel C only British legal origin countries. The regressions estimated in Panels D-E are: Financial Sector Development = $\alpha + \beta_1$ French legal origin + $\beta_2 X$. The regressions in Panel D include countries with settler mortality above the median and the regressions in Panel E countries with settler mortality below the median. There are more countries in panel E than in Panel D because Algeria and Morocco have exactly the median level of Settler Mortality and are allocated to the below median group. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

Panel A: Excluding Australia, Canada, New Zealand, and the United States

	Settler mortality	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private	-0.129***	-0.102*					0.379	66
Credit	(0.030)	(0.061)						
	-0.127***	-0.031	-0.072	-0.088	-0.216**	-0.063	0.419	66
	(0.041)	(0.064)	(0.095)	(0.114)	(0.100)	(0.100)		
Stock	-0.161***	-0.291***					0.342	66
Market	(0.051)	(0.106)						
Development	-0.180**	-0.281***	-0.212	-0.009	0.147	0.046	0.342	66
	(0.069)	(0.100)	(0.158)	(0.192)	(0.212)	(0.166)		
Property	-0.200**	-0.654***					0.173	65
Rights	(0.084)	(0.233)						
	-0.025	-0.571**	0.243	-0.832**	-0.517	0.380	0.238	65
	(0.101)	(0.230)	(0.369)	(0.323)	(0.484)	(0.478)		

Panel B: French Legal Origin Countries

	Settler mortality	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private	-0.080***					0.217	45
Credit	(0.029)						
	-0.066**	-0.044	-0.161*	-0.243**	-0.082	0.390	45
	(0.029)	(0.088)	(0.086)	(0.095)	(0.086)		
Stock	-0.037**					0.057	45
Market	(0.016)						
Development	-0.018	0.023	0.001	0.034	-0.054	0.018	45
	(0.024)	(0.059)	(0.065)	(0.077)	(0.065)		
Property	-0.204*					0.047	44
Rights	(0.112)						
	0.015	-0.073	-0.937**	-0.141	0.352	0.087	44
	(0.120)	(0.269)	(0.392)	(0.389)	(0.509)		

Panel C: British Legal Origin Countries

	Settler mortality	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	-0.204***					0.532	25
	(0.042)						
	-0.158**	-0.074	0.017	0.561	-0.136	0.526	25
	(0.066)	(0.217)	(0.261)	(0.444)	(0.387)		
Stock Market Development	-0.227***					0.330	25
	(0.064)						
	-0.313**	-0.176	0.007	-0.547	0.477	0.329	25
	(0.113)	(0.313)	(0.478)	(0.573)	(0.687)		
Property Rights	-0.335***					0.205	25
	(0.108)						
	-0.086	0.226	-0.816	1.339	0.131	0.184	25
	(0.193)	(0.909)	(0.750)	(0.870)	(1.471)		

Panel D: Countries Above Median for Settler Mortality

	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	-0.039					-0.014	34
	(0.060)						
	0.025	-0.055	-0.331***	-0.356***	-0.040	0.538	34
	(0.040)	(0.046)	(0.024)	(0.082)	(0.083)		
Stock Market Development	-0.082**					0.178	34
	(0.037)						
	-0.062**	-0.078	-0.152***	-0.136	-0.050	0.342	34
	(0.027)	(0.047)	(0.013)	(0.097)	(0.057)		
Property Rights	-1.036***					0.249	33
	(0.327)						
	-0.654**	0.374	-0.783***	-2.458***	0.346	0.400	33
	(0.309)	(0.535)	(0.181)	(0.740)	(0.723)		

Panel E: Countries Below Median for Settler Mortality

	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	-0.414***					0.297	36
	(0.128)						
	-0.303**	-0.305*	-0.012	0.197	-0.150	0.314	36
	(0.142)	(0.170)	(0.235)	(0.285)	(0.294)		
Stock Market Development	-0.611***					0.313	36
	(0.190)						
	-0.613***	-0.001	0.290	0.011	0.037	0.255	36
	(0.217)	(0.255)	(0.399)	(0.290)	(0.429)		
Property Rights	-0.870**					0.194	36
	(0.324)						
	-0.824**	-0.569*	-1.424***	0.968**	-0.120	0.358	36
	(0.318)	(0.284)	(0.473)	(0.420)	(0.775)		

Table 7
Law, Endowments, and Finance: Alternative Finance Indicators

The regression estimated is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Settler Mortality + $\beta_3 X$, where Financial Sector Development is either Liquid Liabilities, Total Value Traded, Rule of Law, or Aggregate Rule of Law. Liquid Liabilities is currency plus demand and interest-bearing liabilities of banks and nonbank financial intermediaries, divided by GDP. Total value traded is the total value of shares traded as a share of GDP. Rule of law (ICRG) accounts for the degree to which a country adheres to the rule of law. Aggregate Rule of law assesses is an aggregate indicator estimated with an unobserved components model using a large number of individual indicators from different sources (Kaufman, Kraay and Zoido-Lobatón). French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

	Settler mortality	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Liquid Liabilities	-0.150***	-0.073					0.433	70
	(0.02958)	(0.05731)						
	-0.148***	0.054	-0.085	-0.210**	-0.439***	-0.015	0.604	70
	(0.034)	(0.058)	(0.079)	(0.083)	(0.117)	(0.107)		
Total Value Traded	-0.058***	-0.105**					0.274	70
	(0.018)	(0.041)						
	-0.043**	-0.081***	-0.129**	-0.109	0.035	0.049	0.292	70
	(0.020)	(0.030)	(0.050)	(0.074)	(0.070)	(0.087)		
Rule of Law	-0.285**	-0.553*					0.141	63
	(0.133)	(0.314)						
	0.041	-0.668**	-1.246***	-0.764	0.881	-1.109*	0.238	63
	(0.180)	(0.334)	(0.448)	(0.592)	(0.555)	(0.625)		
Aggregate Rule of Law	-0.362***	-0.395*					0.349	68
	(0.076)	(0.190)						
	-0.292**	-0.373*	-0.494*	-0.169	0.187	-0.441	0.348	68
	(0.129)	(0.216)	(0.262)	(0.407)	(0.303)	(0.355)		

Table 8
Law, Endowments, and Finance: Alternative Endowment Indicator

The regression estimated in Panel A is: Financial Sector Development = $\alpha + \beta_1$ Latitude + $\beta_3 X$, where Financial Sector Development is either Private Credit, Stock Market Development, or Property Rights. Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. Latitude is the absolute value of the latitude of a country, scaled between zero and one. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. The regression estimated in Panel B is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Latitude + $\beta_3 X$. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Regressions are estimated using Ordinary Least Squares. Robust standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

Panel A:

	Latitude	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	1.048***					0.189	70
	(0.300)						
	0.423	-0.319**	-0.380***	0.034	-0.018	0.346	70
	(0.327)	(0.147)	(0.125)	(0.168)	(0.135)		
Stock Market	0.491					0.012	70
	(0.386)						
Development	-0.171	-0.402**	-0.470*	0.085	0.121	0.120	70
	(0.680)	(0.198)	(0.244)	(0.126)	(0.198)		
Property Rights	3.232***					0.165	69
	(0.784)						
	2.600***	-0.040	-1.122***	-0.569	0.708	0.267	69
	(0.952)	(0.429)	(0.339)	(0.474)	(0.462)		

Panel B:

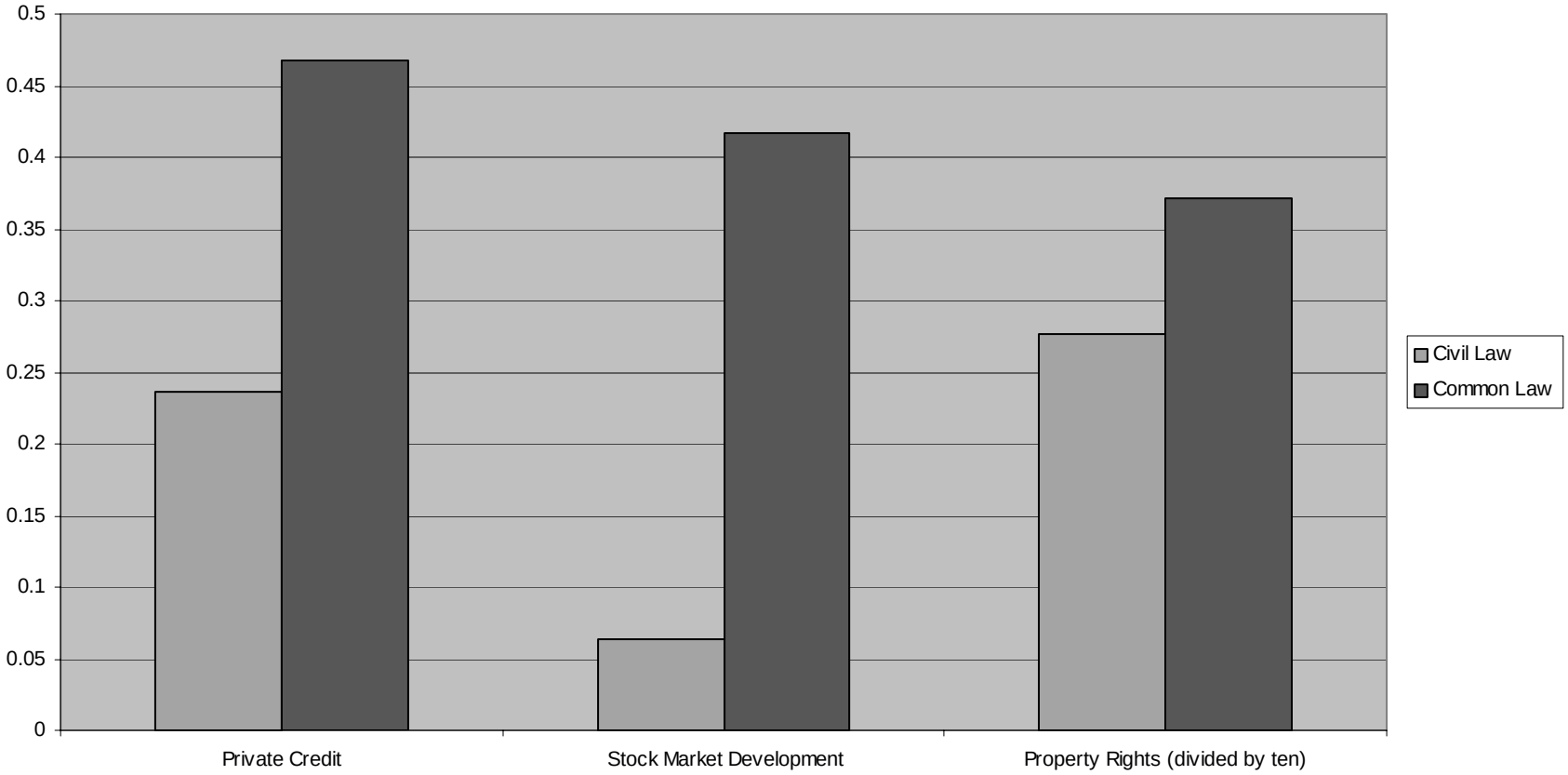
	Latitude	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Private Credit	0.970***	-0.206***					0.286	70
	(0.276)	(0.079)						
	0.381	-0.162**	-0.288**	-0.312**	0.122	-0.055	0.392	70
	(0.301)	(0.078)	(0.127)	(0.122)	(0.171)	(0.141)		
Stock Market	0.360	-0.346***					0.175	70
	(0.355)	(0.122)						
Development	-0.251	-0.312***	-0.341*	-0.339	0.256**	0.051	0.229	70
	(0.613)	(0.104)	(0.179)	(0.134)	(0.127)	(0.173)		
Property Rights	2.924***	-0.873***					0.335	69
	(0.659)	(0.224)						
	2.398***	-0.821***	0.120	-0.783**	-0.120	0.517	0.392	69
	(0.843)	(0.201)	(0.341)	(0.308)	(0.353)	(0.453)		

Table 9
Law, Endowments, and Stock Market Development: Tobit Regressions

The regression estimated is: Financial Sector Development = $\alpha + \beta_1$ French legal origin + β_2 Settler Mortality + $\beta_3 X$, where Financial Sector Development is either Stock Market Development or Total Value Traded. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Total value traded is the total value of shares traded as a share of GDP. French legal origin is a dummy variable that takes on the value one for countries with French civil law tradition, and zero otherwise. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The regressions also include a vector of control variables, X. Latin America and Africa are dummy variables that take the value one if the country is located in Latin America or sub-Sahara Africa, respectively. Independence is the percentage of years since 1776 that a country has been independent. Ethnic Fractionalization is the probability that two randomly selected individuals in a country will not speak the same language. Regressions are estimated using Tobit, censored-normal. Standard errors are given in parentheses. *. **, *** indicate significance at the 10%, 5%, and 1% level, respectively. Detailed variable definitions and sources are given in the data appendix.

	Settler mortality	French legal origin	Latin America	Africa	Independence	Ethnic Fractionalization	Adjusted-R^2	Obs
Stock	-0.269***	-0.353***					0.337	70
Market	(0.051)	(0.116)						
Development	-0.207***	-0.413***	-0.087	-0.347	0.246	0.342	0.329	70
	(0.069)	(0.140)	(0.177)	(0.234)	(0.244)	(0.291)		
Total Value	-0.117***	-0.144***					0.792	70
Traded	(0.024)	(0.055)						
	-0.059*	-0.170***	-0.121	-0.301***	0.142	0.176	1.014	70
	(0.031)	(0.064)	(0.080)	(0.108)	(0.111)	(0.134)		

Figure 1: Financial Development Across Common and Civil Law Countries



Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. Civil law countries are countries whose legal system is of French civil law origin, whereas Common Law countries are countries whose legal system is of British Common Law origin. The sample is restricted to the 70 countries for which data on Settler Mortality are available.

Figure 2a: Private Credit in Civil Law Countries

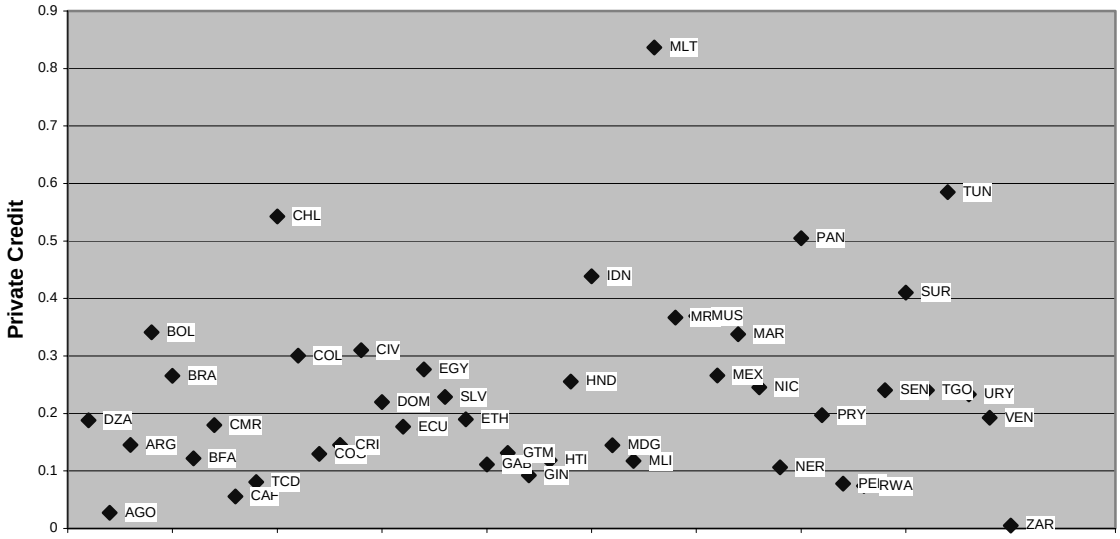
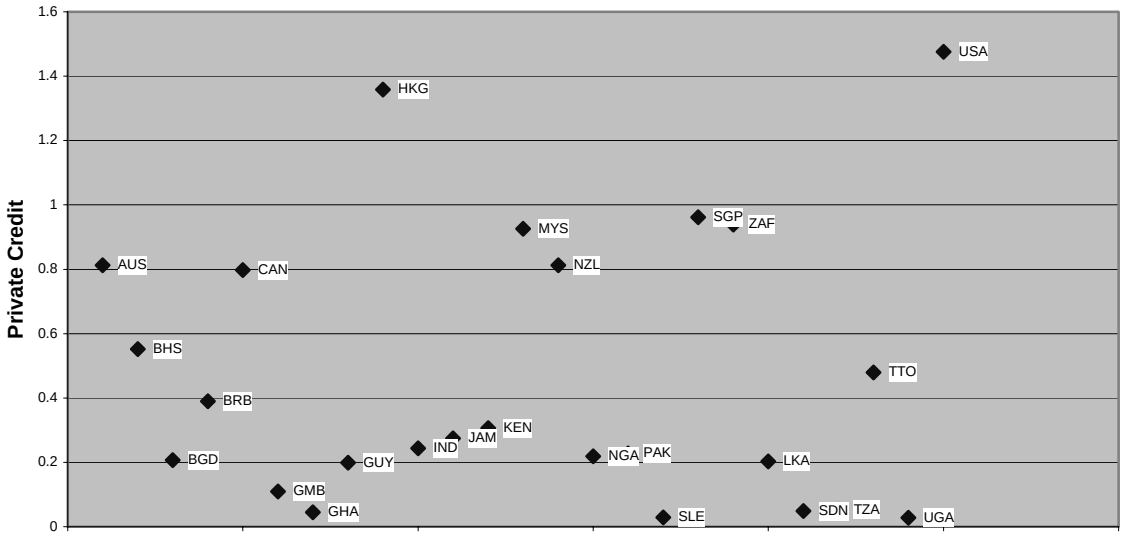


Figure 2b: Private Credit in Common Law



Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Civil law countries are countries whose legal system is of French civil law origin, whereas Common Law countries are countries whose legal system is of British Common Law origin. There are 45 Civil Law and 25 Common Law countries in the sample.

Figure 3a: Settler Mortality and Private Credit

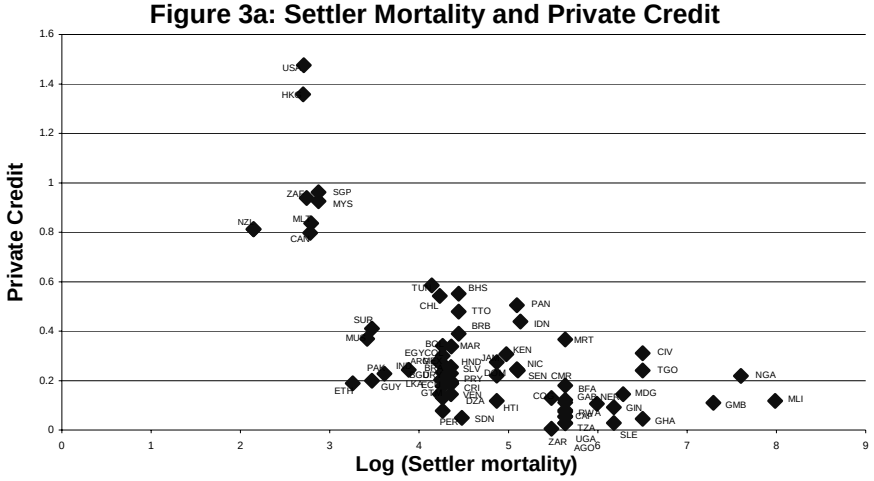
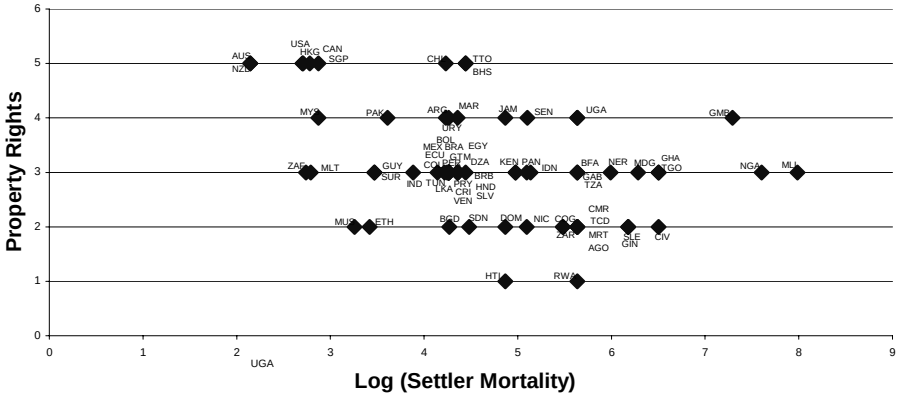


Figure 3b: Settler Mortality and Stock Market Development

Figure 3c: Settler Mortality and Property Rights



Private Credit is the value of credits by financial intermediaries to the private sector as share of GDP. Stock Market Development measures the value of shares listed on the stock exchange as share of GDP. Property rights reflects the degree to which government enforces laws that protect private property, with higher numbers indicating better enforcement. Settler Mortality is the log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century. The sample comprises 70 countries of Common Law and French Civil Law origin.

Appendix Table A:
Financial Development and Institutions Across Countries

Country Name	Country Code	Private Credit	Stock Market Development	Property Rights	Legal origin	Settler mortality	Legislative Competition	Checks
Algeria	DZA	0.19	0.00	3	F	78.2	3.50	1.00
Angola	AGO	0.03	0.00	2	F	280	4.83	2.00
Argentina	ARG	0.15	0.10	4	F	68.9	7.00	4.00
Australia	AUS	0.81	0.54	5	B	8.55	7.00	4.33
Bahamas	BHS	0.55	0.00	5	B	85	7.00	4.00
Bangladesh	BGD	0.21	0.02	2	B	71.41	6.67	3.17
Barbados	BRB	0.39	0.21	3	B	85	6.67	3.67
Bolivia	BOL	0.34	0.01	3	F	71	7.00	5.33
Brazil	BRA	0.27	0.16	3	F	71	7.00	4.17
Burkina Faso	BFA	0.12	0.00	3	F	280	4.00	1.00
Cameroon	CMR	0.18	0.00	2	F	280	5.75	2.00
Canada	CAN	0.80	0.51	5	B	16.1	7.00	4.00
Central African Republic	CAF	0.06	0.00		F	280	5.17	1.67
Chad	TCD	0.08	0.00	2	F	280	2.50	1.00
Chile	CHL	0.54	0.79	5	F	68.9	7.00	4.00
Colombia	COL	0.30	0.12	3	F	71	7.00	2.00
Congo	COG	0.13	0.00	2	F	240	5.00	2.00
Costa Rica	CRI	0.15	0.06	3	F	78.1	7.00	2.33
Cote d'Ivoire	CIV	0.31	0.05	2	F	668	5.67	1.83
Dominican Republic	DOM	0.22	0.00	2	F	130	7.00	5.00
Ecuador	ECU	0.18	0.10	3	F	71	7.00	3.67
Egypt	EGY	0.28	0.07	3	F	67.8	6.00	2.00
El Salvador	SLV	0.23	0.06	3	F	78.1	7.00	3.33
Ethiopia	ETH	0.19	0.00	2	F	26	2.67	1.00
Gabon	GAB	0.11	0.00	3	F	280	6.50	1.67
Gambia	GMB	0.11	0.00	4	B	1470	5.50	2.67
Ghana	GHA	0.05	0.12	3	B	668	3.00	2.00
Guatemala	GTM	0.13	0.01	3	F	71	7.00	3.17
Guinea	GIN	0.09	0.00	2	F	483	1.00	1.00
Guyana	GUY	0.20	0.00	3	B	32.18	6.50	1.50
Haiti	HTI	0.12	0.00	1	F	130	6.00	1.83
Honduras	HND	0.26	0.05	3	F	78.1	7.00	2.00
Hong Kong	HKG	1.36	1.79	5	B	14.9		
India	IND	0.24	0.27	3	B	48.63	7.00	5.83
Indonesia	IDN	0.44	0.14	3	F	170	6.00	1.00
Jamaica	JAM	0.27	0.42	4	B	130	6.67	3.67
Kenya	KEN	0.31	0.15	3	B	145	5.50	2.00
Madagascar	MDG	0.14	0.00	3	F	536.04	6.33	2.83
Malaysia	MYS	0.93	1.89	4	B	17.7	7.00	6.00
Mali	MLI	0.12	0.00	3	F	2940	5.00	2.00
Malta	MLT	0.84	0.12	3	F	16.3	7.00	3.00
Mauritania	MRT	0.37	0.00	2	F	280	3.50	2.50
Mauritius	MUS	0.37	0.22	2	F	30.5	7.00	5.00
Mexico	MEX	0.27	0.32	3	F	71	6.83	2.00

Morocco	MAR	0.34	0.08	4	F	78.2	7.00	1.00
New Zealand	NZL	0.81	0.40	5	B	8.55	7.00	2.83
Nicaragua	NIC	0.25	0.00	2	F	163.3	7.00	2.25
Niger	NER	0.11	0.00	3	F	400	3.67	1.67
Nigeria	NGA	0.22	0.05	3	B	2004	1.00	1.00
Pakistan	PAK	0.23	0.16	4	B	36.99	7.00	5.50
Panama	PAN	0.50	0.07	3	F	163.3	7.00	3.17
Paraguay	PRY	0.20	0.01	3	F	78.1	7.00	3.00
Peru	PER	0.08	0.08	3	F	71	7.00	3.67
Rwanda	RWA	0.07	0.00	1	F	280	4.17	1.00
Senegal	SEN	0.24	0.00	4	F	164.66	6.50	2.00
Sierra Leone	SLE	0.03	0.00	2	B	483	2.67	1.00
Singapore	SGP	0.96	1.33	5	B	17.7	6.00	2.00
South Africa	ZAF	0.94	1.56	3	B	15.5	7.00	2.00
Sri Lanka	LKA	0.20	0.17	3	B	69.8	7.00	3.17
Sudan	SDN	0.05	0.00	2	B	88.2		
Surinam	SUR	0.41	0.00	3	F	32.18	7.00	4.33
Tanzania	TZA	0.05	0.00	3	B	145	4.50	1.00
Togo	TGO	0.24	0.00	3	F	668	4.33	1.50
Trinidad and Tobago	TTO	0.48	0.12	5	B	85	6.67	3.67
Tunisia	TUN	0.58	0.08	3	F	63	5.17	1.00
Uganda	UGA	0.03	0.00	4	B	280	4.00	1.00
Uruguay	URY	0.23	0.01	4	F	71	7.00	4.00
USA	USA	1.48	0.69	5	B	15	7.00	4.67
Venezuela	VEN	0.19	0.12	3	F	78.1	7.00	4.67
Zaire	ZAR	0.00	0.00	2	F	240	2.83	1.00

Appendix Table B
Variable Descriptions and Sources

Variable	Description	Source
Private Credit	{(0.5)*[F(t)/P_e(t) + F(t-1)/P_e(t-1)]}/[GDP(t)/P_a(t)], where F is credit by deposit money banks and other financial institutions to the private sector (lines 22d and 42d in International Financial Statistics, IFS), GDP is line 99b, P_e is end-of period CPI (line 64) and P_a is the average CPI for the year. Average for 1990-95. Data for Angola, Guinea, and Tanzania were calculated using data from IFS and World Development Indicators (WD)I; for Angola IFS data for 1996-98 were used and GDP data from WDI; for Guinea GDP data from WDI were used and given the lack of CPI indicators the ratio of line 22d plus 42d divided by GDP calculated.	Beck, Demirguc-Kunt, and Levine (2000), IFS, WDI and own calculations
Stock Market Development	{(0.5)*[F(t)/P_e(t) + F(t-1)/P_e(t-1)]}/[GDP(t)/P_a(t)], where F is the total value of outstanding shares, GDP is line 99b (IFS), P_e is end-of period CPI (line 64, IFS) and P_a is the average CPI for the year. Average for 1990-95. For Guatemala and El Salvador IFC data from 1996 and 1997 were used to calculate the variable. For Malta data for 1994 and 95 from the stock exchange's web-page were used. For all countries that do not have stock markets or that introduced stock markets after 1995 a zero was entered. Also, for Nicaragua a zero was entered, since no data were found, the exchange was founded in 1993, and it is reported to be very small.	Beck, Demirguc-Kunt, and Levine (2000), IFC, IFS and own calculations
Property Rights	An index of the degree to which government protects and enforces laws that protect private property. Measured in 1997 and ranges from 1-5.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999), Heritage Foundation
Liquid Liabilities	{(0.5)*[F(t)/P_e(t) + F(t-1)/P_e(t-1)]}/[GDP(t)/P_a(t)], where F is currency plus demand and interest-bearing liabilities of banks and nonbank financial intermediaries (line 55l in International Financial Statistics, IFS), GDP is line 99b, P_e is end-of period CPI (line 64) and P_a is the average CPI for the year. Average for 1990-95. Data for Angola, Guinea, and Tanzania were calculated using data from IFS and World Development Indicators (WD)I; for Angola IFS data for 1996-98 were used and GDP data from WDI; for Guinea GDP data from WDI were used and given the lack of CPI indicators the ratio of line 55l divided by GDP calculated	
Total Value Traded	The total value of shares traded as a ratio of GDP. Average for 1990-95. For Guatemala and El Salvador IFC data from 1996 and 1997 were used to calculate the variable. For Malta data for 1994 and 95 from the stock exchange's web-page were used. For all countries that do not have stock markets or that introduced stock markets after 1995 a zero was entered. Also, for Nicaragua a zero was entered, since no data were found, the exchange was founded in 1993, and it is reported to be very small.	Beck, Demirguc-Kunt, and Levine (2000), IFC, IFS and own calculations
Rule of Law	An indicator of the degree to which the country adheres to the rule of law (ranging from 0 to 6). Average for 1990-95	International Country Risk Guide (ICRG)
Aggregate Rule of Law	An indicator of the strength and impartiality of the legal system. Aggregate indicator that is estimated with an unobserved component model from individual indicators of the efficiency of the legal system from 11 sources. Measured in 1998.	Kaufman, Kraay and Zoido-Lobatón (1999)
French Legal Origin	Dummy variable that takes on value one if a country legal system is of French Civil Law origin.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999)
Settler Mortality	Log of the annualized deaths per thousand European soldiers in European colonies in the early 19th century.	Acemoglu, Johnson, and Robinson (2001)

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Latitude	Absolute value of the latitude of a country, scaled between zero and one	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999)
Africa	Dummy variable that takes on value one if country is in Sub-Saharan Africa.	Easterly and Levine (1997)
Latin America	Dummy variable that takes on value one if country is in Latin America.	Easterly and Levine (1997)
Catholic	Percentage of population that follows Catholic religion, in 1980. Ranges from 0-100.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999)
Muslim	Percentage of population that follows Muslim religion, in 1980. Ranges from 0-100.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999)
Other Religion	Percentage of population that follows religion other than Catholic, Muslim, or Protestant, in 1980. Ranges from 0-100.	La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1999)
Independence	Percentage of years since 1776 that a country has been independent.	Easterly and Levine (1997)
Ethnic Fractionalization	Probability that two randomly selected individuals in a country will not speak the same language.	Easterly and Levine (1997)
Legislative Competition	Index of the number of parties competing in the last legislative election, ranging from 1 (non-competitive) to 7 (competitive). Average for 1990-95.	Beck, Clarke, Groff, Keefer, and Walsh (2001)
Checks	Measure of the number of veto-players in the political decision process, both in the executive and the legislature. Average for 1990-95.	Beck, Clarke, Groff, Keefer, and Walsh (2001)